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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/510,175

10/04/2004

Martin Harris

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EXAMINER

CHAPEL, DEREK S

ART UNIT

PAPER NUMBER

2872

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/06/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/510,175	<b>Applicant(s)</b> HARRIS, MARTIN	
	<b>Examiner</b> Derek S. Chapel	<b>Art Unit</b> 2872	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 November 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 2-4, 6-8 and 11-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/11/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of Invention III (claims 1, 5 and 9-10) in the reply filed on 11/16/2006 is acknowledged. The traversal is on the ground(s) that Sandison et al., U.S. Patent Number 5,929,985, of record (hereafter Sandison) does not teach a *confocal* microscope or endoscope and that Sandison does not teach "a return channel for fluorescent return light". This is not found persuasive because "confocal microscope or endoscope" is in the preamble of linking claim 1. The preamble fails to structurally limit the body of the claim. Sandison meets all of the structural limitations required by the claim in support thereof. As such, Sandison must support "confocal microscope or endoscope" in the same way as the structure of the claim. Further, element G25 (the coherent fiber) in figure 5 of Sandison is "a return channel for fluorescent return light" since Sandison teaches that element G25 is used to transmit "expressed light" (see column 7, lines 31-37 of Sandison) and "expressed light" is equated to light like that described in U.S. Patent Number 5,421,339 to Romanujam et al. (hereafter Romanujam) (see column 1, lines 12-19 of Sandison) which describes light returned from the sample as being fluoresced light (see the title and abstract of Romanujam).

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 2-4, 6-8 and 11-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11/16/2006.

***Priority***

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

4. The Information Disclosure Statement (IDS) filed on 1/11/2005 was considered. However it is noted by the examiner that it is unclear how Wolfer et al., U.S. Patent Number 6,337,842 titled "Disk Handling System Having A Telescoping Elevator Pin" is of any relevance to a confocal microscope or endoscope.

***Drawings***

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: element 334 is referenced on line 24 of page 25 of the specification but is not shown in figure 9. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the

immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: element 344 is shown in figure 9 but not referenced in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

7. Figure 10 is objected to by the examiner under 37 CFR 1.84(m) because solid black shading is not permitted.

***Specification***

8. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

9. The disclosure is objected to because of the following informalities:

a. "for – in particular improving" should be changed to --for, in particular, improving-- in lines 6 and 7 of page one of the specification;

b. "typically require either precise" should be changed to --typically require precise-- in line 16 of page 1 of the specification;

c. "preserves – in a comparison of the entry and relative spatial coordinates of the cores of said individual fibres." should be changed to --preserves, in a comparison of the entry and exit ends of the bundle, the relative spatial coordinates of the cores of the individual fibers.-- in lines 37 of page 1 of the specification through lines 1 and 2 of page 2 of the specification;

d. "preserves – in a comparison of the entry and exit ends of the bundle – the relative spatial coordinates of the cores of the individual fibres." should be changed to --preserves, in a comparison of the entry and exit ends of the bundle, the relative spatial coordinates of the cores of the individual fibers.-- in lines 8-10 of page 2 of the specification;

e. "change beam" should be changed to --change the beam-- in line 30 of page 8 of the specification;

f. "carried using" should be changed to --carried out using-- in line 27 of page 10 of the specification;

g. "Listed below are a number of methods that can do can this however it is possible that there may be further ways that could also work just as well." should be changed to --Listed below are a number of methods that can do this, however, it is possible that there may be further ways that could also work just as well.-- in lines 26-29 on page 14 of the specification;

h. "polished" should be changed to --polishing-- in line 11 of page 15 of the specification;

i. "Scanning in Remote Fluorescence Spectroscopy and Gene Chip Readers" should be changed to --Scanning in Remote Fluorescence Spectroscopy and Gene Chip Readers:-- in lines 13 and 14 on page 16 of the specification.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandison et al., U.S. Patent Number 5,929,985, of record (hereafter Sandison) in view of Furusawa et al., U.S. Patent Number 6,456,769 B1 (hereafter Furusawa).

13. As to claim 1, Sandison teaches:

a source of light for illumination of a sample (see figure 5, element L5);

a light focuser for receiving and focusing said light to an illumination volume that in use intersects said sample (see figure 5, element XL5);

a beam-splitter for receiving return light returned from said sample in response to said illumination and for diverging from said return light a fluorescent component (see examiner's remarks from section 1 of this office action above) of said return light (see figure 3a, element S3); and

an imaging optical fiber bundle comprising a plurality of individual fibers (see figure 5, element G25), having an entry end located to receive said diverged fluorescent component of said return light so that said diverged fluorescent component is transmitted to an exit end of said fiber bundle (see figure 5);

wherein said fiber bundle preserves, between said entry end and said exit end of said fiber bundle, the relative spatial coordinates of the cores of said individual fibers (see column 7, lines 31-37).

Sandison does not disclose that the source of light is a coherent source.



However, Furusawa discloses a coherent light source used in an endoscope apparatus to excite fluorescence from a sample (see figure 3, element 312 and column 6, lines 33-42 of Furusawa).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Furusawa and Sandison to make the light source of Sandison a coherent light source, such as the one taught by Furusawa, for the purpose of exciting living body tissue to show self-fluorescence, as taught by Furusawa (see column 6, lines 33-42 of Furusawa).

14. As to claim 5, Sandison in view of Furusawa discloses the combination of claim 1. "said microscope or endoscope is embodied as an ophthalmoscope" does not add any structure to the device of claim 1. Therefore, Sandison meets all of the structural limitations required by the claim in support thereof and is capable of being used as an ophthalmoscope. As such, Sandison must support "said microscope or endoscope is embodied as an ophthalmoscope" in the same way as Sandison supports the structure of claim 1.

15. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandison et al., U.S. Patent Number 5,929,985, of record (hereafter Sandison) in view of Furusawa et al., U.S. Patent Number 6,456,769 B1 (hereafter Furusawa) as applied to claims 1 and 5 above, and further in view of George, U.S. Patent Number 6,038,067 (hereafter George).

16. As to claims 9 and 10, Sandison in view of Furusawa disclose the combination of claim 1.

Sandison in view of Furusawa do not disclose that said microscope or endoscope includes a spatial filter optically after said fiber bundle, said spatial filter being a variable aperture.

However, George discloses placing a spatial filter, in the form of an iris-type aperture, in the focal plane of the detector (see column 1, lines 25-30 and column 4, lines 23-33 of George).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of George and Sandison in view of Furusawa so that said microscope or endoscope includes a spatial filter optically after said fiber bundle, said spatial filter being a variable aperture, for the purpose of rejecting out-of-focus light and to allow for the collection of more light, as taught by George (see column 1, lines 25-30 and column 4, lines 23-33 of George).

### ***Conclusion***

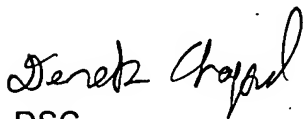
17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek S. Chapel whose telephone number is 571-272-8042. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DSC  
1/30/2007



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SUPERVISORY PATENT EXAMINER